IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (currently amended)   An encoding system for encoding input video data, ~~characterized by~~ comprising:

encoding means for encoding said input video data to generate an elementary stream and describing, in said elementary stream, picture order information about ~~the~~ a picture order of said elementary stream; ~~and~~

~~generation~~ generating means for receiving said elementary stream and generating time stamp information about said elementary stream from said picture order information described in said elementary stream;

counting means for counting fields in the input video data having a particular frame frequency; and

converting means, connected between said counting means and said encoding means, for converting the input video data having said particular frame frequency into video data with a second frame frequency,

wherein said encoding means generates said time stamp information, based on said counting means.

2. (currently amended)   The encoding system according to claim 1, ~~characterized in that~~ wherein said encoding means describes said picture order information in ~~the~~ a picture layer of said elementary stream.

3. (currently amended)   The encoding system according to claim 1, ~~characterized in that~~ wherein said picture order information is described as Picture_order() in ~~the~~ a picture layer of said elementary stream.

4. (currently amended)   The encoding system according to claim 1, ~~characterized in that~~ wherein[[:]],

       said picture order information is inserted into ~~the~~ a picture layer of said elementary stream; and

       said ~~generation~~ generating means extracts said picture order information from said elementary stream by parsing the syntax of said elementary stream.

5. (currently amended)   The encoding system according to claim 1, ~~characterized in that~~ wherein said time stamp information ~~contains~~ comprises presentation time stamps and/or decoding time stamps.

6. (currently amended)   The encoding system according to claim 1, ~~characterized in that~~ wherein said ~~generation~~ generating means comprises means for generating a packetized elementary stream by packetizing said elementary stream and ~~adds~~ adding said time stamp information to ~~the~~ a header of said packetized elementary stream.

7. (currently amended)   The encoding system according to claim 1, ~~characterized in that~~ wherein said ~~generation~~ generating means ~~comprises for generating~~ generates a packetized elementary stream by packetizing said elementary stream and ~~uses~~ using said time stamp information ~~to add~~ and adding said time stamp information ~~as~~ into ~~the~~ a header of said packetized elementary stream.

8. (currently amended)   The encoding system according to claim 1, ~~characterized in that:~~ wherein

said time stamp information contains presentation time stamps ~~and/~~or decoding time stamps; and

said ~~generation~~ generating means generates a packetized elementary stream by packetizing said elementary stream and ~~adds~~ adding said presentation time stamps ~~and/~~or decoding time stamps ~~as~~ into ~~the~~ a header of said packetized elementary stream.

9. (currently amended)   The encoding system according to claim 1, ~~characterized in that~~ wherein said picture order information is generated by counting ~~the~~ fields in said input video data.

10. (currently amended)   The encoding system according to claim 1, ~~in which said input video data has a~~ wherein said particular frame frequency is 30-Hz frame frequency generated by a 3:2 pull-down process performed on source video data with a second frame frequency of 24-Hz ~~frame frequency, further comprising:~~

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~~counting means for counting the fields in the input video data with said 30-Hz~~

~~frame frequency; and~~

~~2:3 pull-down means, connected between said counting means and said encoding~~

~~means, for performing the 2:3 pull-down process to convert the input video data with said 30-Hz~~

~~frame frequency into video data with a 24-Hz frame frequency,~~

~~characterized in that said encoding means generates said time stamp information,~~

~~based on the count information from said counting means.~~

11. (currently amended)   An encoding system for encoding input video data, characterized by

comprising:

encoding means for encoding said input video data to generate an elementary

stream and describing, in said elementary stream, <u>picture order</u> information about ~~the~~ <u>a</u> picture

order of said elementary stream; and

a packetizer for packetizing said elementary stream, based on said picture order

information described in said elementary stream<u>;</u>

<u>counting means for counting fields in the input video data having a particular</u>

<u>frame frequency; and</u>

<u>converting means, connected between said counting means and said encoding</u>

<u>means, for converting the input video data having said particular frame frequency into video data</u>

<u>with a second frame frequency,</u>

<u>wherein said encoding means generates said time stamp information, based on</u>

<u>said counting means.</u>

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12. (currently amended) An encoding system for encoding input video data, ~~characterized by~~ comprising ~~of~~:

encoding means for generating an elementary stream by encoding said input video data in which ~~the~~ information used to generate presentation time stamps has been described in said elementary stream; ~~and~~

a packetizer for packetizing said elementary stream, based on the information used to generate said presentation time stamps described in said elementary stream;

counting means for counting fields in the input video data having a particular frame frequency; and

converting means, connected between said counting means and said encoding means, for converting the input video data having said particular frame frequency into video data with a second frame frequency,

wherein said encoding means generates said time stamp information, based on said counting means.

13. (currently amended) An encoding system for encoding input video data, ~~characterized by~~ comprising:

encoding means for encoding said input video data to generate an elementary stream and describing, in said elementary stream, information about the picture order of said elementary stream; ~~and~~

a packetizer for packetizing said elementary stream based on said picture order information described in said elementary stream;

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counting means for counting fields in the input video data having a particular frame frequency; and

converting means, connected between said counting means and said encoding means, for converting the input video data having said particular frame frequency into video data with a second frame frequency,

wherein said encoding means generates said time stamp information, based on said counting means.

14. (currently amended) An encoding system for encoding input video data, ~~characterized by~~ comprising:

encoding means for generating an elementary stream by encoding said input video data and for multiplexing, in the elementary stream time stamp information about the decoding ~~and/~~or presentation of said elementary stream; ~~and~~

processing means for receiving said elementary stream and for performing stream processing for said elementary stream, based on said time stamp information described in said elementary stream;

counting means for counting fields in the input video data having a particular frame frequency; and

converting means, connected between said counting means and said encoding means, for converting the input video data having said particular frame frequency into video data with a second frame frequency,

wherein said encoding means generates said time stamp information, based on said counting means.

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15. (currently amended)   An encoding system for encoding a plurality of input video data, ~~characterized by~~ comprising:

encoding means for encoding said plurality of input video data to generate a plurality of elementary streams and describing, in each of said elementary streams, time stamp information about the decoding and/or presentation of said elementary streams; ~~and~~

multiplexing means for receiving said plurality of elementary streams and multiplexing said plurality of elementary streams, based on said time stamp information added in said each elementary stream;

counting means for counting fields in the input video data having a particular frame frequency; and

converting means, connected between said counting means and said encoding means, for converting the input video data having said particular frame frequency into video data with a second frame frequency,

wherein said encoding means generates said time stamp information, based on said counting means.

16. (currently amended)   An encoding system for encoding input video data, comprising:

an encoder for encoding said input video data to generate an elementary stream; ~~and~~

a packetizer for generating a packetized elementary stream from said elementary stream;

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counting means for counting fields in the input video data having a particular

frame frequency; and

converting means, connected between said counting means and said encoding

means, for converting the input video data having said particular frame frequency into video data

with a second frame frequency,

~~characterized in that~~ wherein said encoder describes in said elementary stream ~~the~~

information needed to generate ~~the~~ a time stamp to be described in ~~the~~ a header of said

packetized elementary stream.

17. (currently amended)   An encoding system for encoding input video data, comprising:

an encoder for encoding said input video data to generate an elementary stream;

~~and~~

a packetizer for generating a packetized elementary stream from said elementary

stream,

counting means for counting fields in the input video data having a particular

frame frequency; and

converting means, connected between said counting means and said encoding

means, for converting the input video data having said particular frame frequency into video data

with a second frame frequency,

wherein said encoding means generates said time stamp information, based on

said counting means;

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~~characterized in that~~ wherein said encoder ~~transmitting~~ transmits the information used to generate the time stamp ~~to be~~ described in ~~the~~ a header of said packetized elementary stream to said packetizer.

18. (currently amended)   An encoding method for encoding input video data, ~~characterized by~~ comprising the steps of:

encoding said input video data to generate an elementary stream and describing, in said elementary stream, information about ~~the~~ a picture order of said elementary stream; and

packetizing said elementary stream, based on said picture order information described in said elementary stream;

counting fields in the input video data having a particular frame frequency; and

performing a converting process to convert the input video data having said particular frame frequency into video data with a second frame frequency,

wherein said encoding step generates a time stamp information, based on said counting means.

19. (currently amended)   An encoding method for encoding input video data, ~~characterized by~~ comprising the steps of:

generating an elementary stream by encoding said input video data wherein ~~the~~ information used to generate presentation time stamps ~~has been~~ is described in said elementary stream; ~~and~~

packetizing said elementary stream, based on the information used to generate said presentation time stamps described in said elementary stream;

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counting fields in the input video data having a particular frame frequency; and

performing a converting process to convert the input video data having said

particular frame frequency into video data with a second frame frequency,

wherein said encoding step generates said time stamp information, based on said

counting step.

20. (currently amended)   An encoding system for encoding input video data, characterized by

comprising the steps of:

encoding said input video data to generate an elementary stream and multiplexing,

in said elementary stream, time stamp information about the decoding and/or presentation of said

elementary stream; ~~and~~

receiving said elementary stream and performing stream processing for said

elementary stream, based on said time stamp information described in said elementary stream;

counting fields in the input video data having a particular frame frequency; and

performing a converting process to convert the input video data having said

particular frame frequency into video data with a second frame frequency,

wherein said encoding step generates said time stamp information, based on said

counting step.

21. (currently amended)   An encoding method for encoding a plurality of input video data,

~~characterized by~~ comprising the steps of:

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encoding said plurality of input video data to generate a plurality of elementary

streams and describing, in each of said elementary streams, time stamp information about the

decoding ~~and/~~or presentation of said elementary streams; ~~and~~

receiving said plurality of elementary streams and multiplexing said plurality of

elementary streams, based on said time stamp information added in said each elementary stream;

counting fields in the input video data having a particular frame frequency; and

performing a converting process to convert the input video data having said

particular frame frequency into video data with a second frame frequency,

wherein said encoding step generates said time stamp information, based on said

counting step.

22. (currently amended)   An encoding method for encoding input video data, comprising:

~~an encoding step for~~ encoding said input video data to generate an elementary

stream; ~~and~~

~~a step for~~ generating a packetized elementary stream from said elementary

stream~~,~~;

counting fields in the input video data having a particular frame frequency; and

performing a converting process to convert the input video data having said

particular frame frequency into video data with a second frame frequency,

wherein said encoding step generates said time stamp information, based on said

counting step;

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~~characterized in that~~ wherein said encoding step involves describing in said elementary stream ~~the~~ information needed to generate the time stamp ~~to be described in the header of said packetizer.~~

23. (currently amended)   An encoding method for encoding input video data, ~~characterized by~~ comprising the steps of:

encoding said input video data to generate an elementary stream;

transmitting ~~the~~ information used to generate said elementary stream and time stamps; ~~and~~

generating a packetized elementary stream from said elementary stream based on the ~~method~~encoding;

counting fields in the input video data having a particular frame frequency; and

performing a converting process to convert the input video data having said particular frame frequency into video data with a second frame frequency;

wherein said encoding step generates said time stamp information, based on said counting step.

24. (currently amended)   An encoding method for encoding a plurality of input video data, ~~characterized by~~ comprising the steps of:

generating a plurality of elementary streams by encoding said plurality of input video data;

describing, in each of said elementary streams, ~~the~~ stamp information about ~~the~~ decoding ~~and/~~or presentation of said elementary streams; ~~and~~

receiving said plurality of elementary streams and multiplexing said plurality of elementary streams based on said time stamp information added in said each elementary stream;

counting fields in the input video data having a particular frame frequency; and

performing a converting process to convert the input video data having said particular frame frequency into video data with a second frame frequency,

wherein said generating step generates said time stamp information, based on said counting step.

25. (currently amended)   A multiplexing apparatus for multiplexing the a plurality of elementary streams generated by encoding a plurality of input video data, characterized by comprising:

means for extracting the time stamp information associated with each of the plurality of elementary streams from said plurality of elementary streams; and

means for multiplexing said plurality of elementary streams, based on said time stamp information extracted from said each elementary stream;

means for counting fields in the input video data having a particular frame frequency; and

means for converting, connected between said counting means and said encoding means, for converting the input video data having said particular frame frequency into video data with a second frame frequency,

wherein said extracting means generates said time stamp information, based on said counting means.

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26. (currently amended)   A multiplexing method for multiplexing ~~the~~ a plurality of elementary streams generated by encoding a plurality of input video data, ~~characterized by~~ comprising the steps of:

extracting ~~the~~ time stamp information associated with each of said plurality of elementary streams from said plurality of elementary streams; ~~and~~

multiplexing said plurality of elementary streams based on said time stamp information extracted from said each elementary stream;

counting fields in the input video data having a particular frame frequency; and

performing a converting process to convert the input video data having said particular frame frequency into video data with a second frame frequency,

wherein said extracting step generates said time stamp information, based on said counting step.

27. (cancelled)

28. (cancelled)

29. (cancelled)

30. (cancelled)

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